DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980
DISTRICT II
811 South First St., Artesia, NM 88210-2835
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410-1693

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 S. Pacheco
Santa Fe, New Mexico 87505-6429

APPLICATION FOR DOWNHOLE COMMINGLING

Form C-107-A
New 3-12-96

APPROVAL PROCESS:
X Administrative __Hearing

EXISTING WELLBORE
X YES __ NO

Phillips Petroleum Company (Operator) 5525 Hwy. 64, Farmington, NM 87401 (Address)

San Juan 29-6 Unit #51 (Lease) Well No. N, Sec. 31, T29N, R6W (Unit Ltr. - Sec - Twp - Rge) Rio Arriba (County)

Spacing Unit Lease Types: (check 1 or more)

OGRID NO. 017654 Property Code 009257 API NO. 30-039-07470 Federal X, State ___, (and/or) Fee ___

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	72439 S. Blanco PC		72319 Blanco Mesaverde
2. Top and Bottom of Pay Section (Perforations)	3662' - 3769'		4453' - 5992'
3. Type of production (Oil or Gas)	gas		gas
4. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing
5. Bottomhole Pressure Oil Zones - Artificial Lift: Estimated Current Gas & Oil - Flowing: Measured Current All Gas Zones: Estimated Or Measured Original	a. (Current) 1065 psi (est)*	a.	a. 389 psi (24hr SI)
	b. (Original) 1200 psi (est.)	b.	b. 1280 psi (est.)
6. Oil Gravity (°API) or Gas BTU Content	1100 btu/scf		1200 btu/scf
7. Producing or Shut-In?	Producing		Shut-in
Production Marginal? (yes or no)	yes		yes
• If Shut-In, give date and oil/gas/ water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Date: Rates:	Date: Rates:	Date: 11/30/99 Rates: 154 mcfd, 1 bopd
• If Producing, give date andoil/gas/ water rates of recent test (within 60 days)	Date: Rates: 250 mcfd, 1bopd	Date: Rates:	Date: Rates:
8. Fixed Percentage Allocation Formula -% for each zone	Oil: % Gas: %	Oil: % Gas: %	Oil: % Gas: %

JAN 2000 RECEIVED OIL CON. DIV DIST. 3

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones? ___ Yes X No
If not, have all working, overriding, and royalty interests been notified by certified mail? ___ Yes ___ No
Have all offset operators been given written notice of the proposed downhole commingling? X Yes ___ No

11. Will cross-flow occur? ___ Yes X No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. ___ Yes ___ No (If No, attach explanation)

12. Are all produced fluids from all commingled zones compatible with each other? X Yes ___ No

13. Will the value of production be decreased by commingling? ___ Yes X No (If Yes, attach explanation)

14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. ___Yes ___ No

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S). R-11187

16. ATTACHMENTS:
- C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
- Production curve for each zone for at least one year. (If not available, attach explanation.)
- For zones with no production history, estimated production rates and supporting data.
- Data to support allocation method or formula.
- Notification list of all offset operators.
- Notification list of working, overriding, and royalty interests for uncommon interest cases.
- Any additional statements, data, or documents required to support commingling.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Mark Stodola TITLE Reservoir Engr. DATE 1/11/00

TYPE OR PRINT NAME Mark Stodola TELEPHONE NO. (505) 599-3455

* No BHP measure, supporting data attached.

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

RECEIVED
BLM
99 OCT 26 PM 4:06
070 FARMINGTON NM

Form C-102
Revised October 18, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	³ Pool Name
30-039-07470	72439	So. Blanco Pictured Cliffs, Ext.

⁴ Property Code	⁵ Property Name	⁶ Well Number
009257	San Juan 29-6 Unit	51

⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
017654	Phillips Petroleum Company	6584'

¹⁰ Surface Location

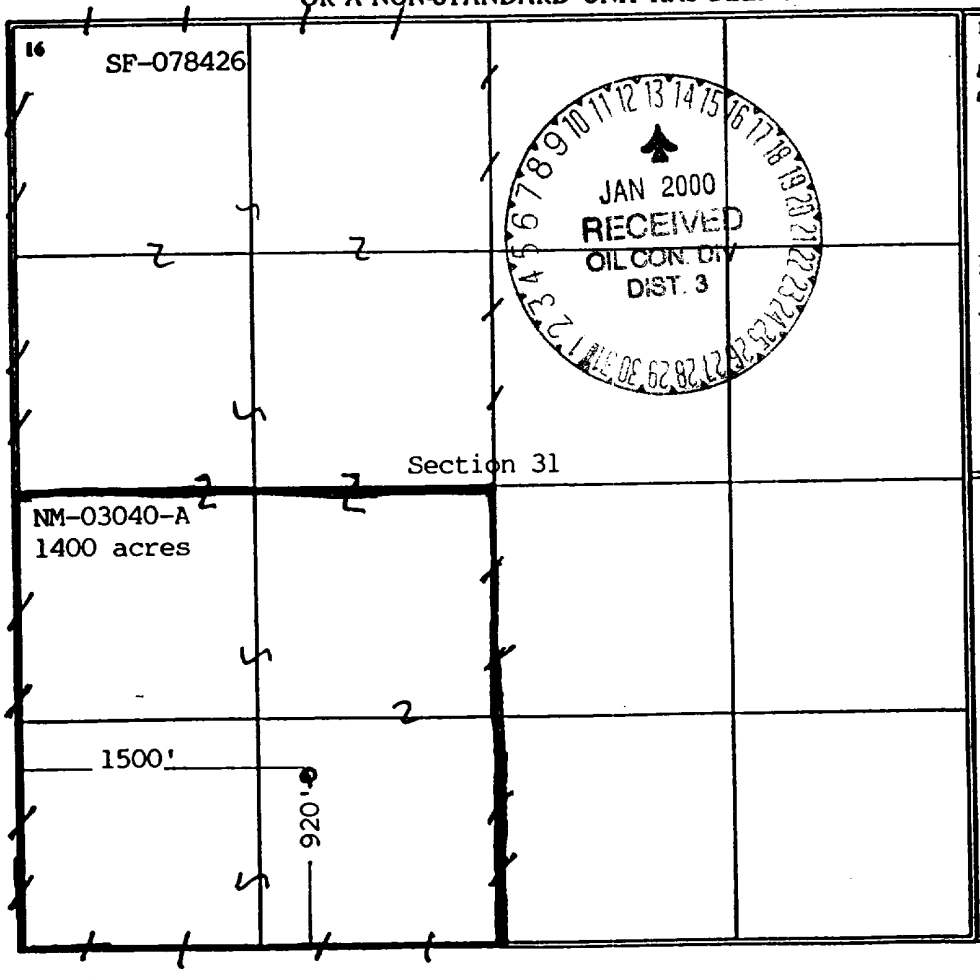
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	31	29N	6W		920	South	1500	West	Rio Arriba

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N									

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
320 W/2	Y	C	

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Patsy Clugston
Signature

Patsy Clugston
Printed Name

Regulatory Assistant
Title

October 26, 1999
Date

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

11/14/55
Date of Survey

Signature and Seal of Professional Surveyer:
See plat signed by
James P. Leese

Reg # 1463
Certificate Number

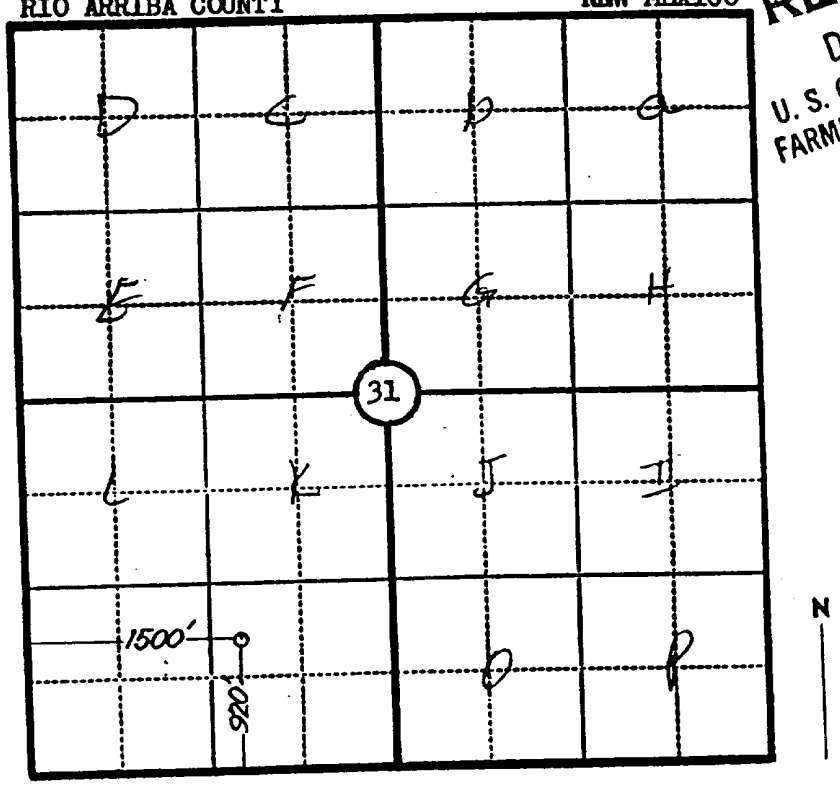
Company PACIFIC NORTHWEST PIPELINE CORPORATION

Lease San Juan 29-6 Well No. 51

Sec. 31, T. 29 N., R. 6 W., N.M.P.M.

Location 920' FROM THE SOUTH LINE AND 1500' FROM THE WEST LINE.

Elevation 6584.6 UNGRADED GROUND.



Scale—4 inches equal 1 mile.

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

James P. Leese

Seal:

Registered Land Surveyor.
James P. Leese
N. Mex. Reg. No. 1463

Surveyed 14 November, 1955

SAN JUAN ENGINEERING COMPANY, FARMINGTON, N. M.

PHILLIPS PETROLEUM COMPANY
FARMINGTON, NEW MEXICO 87401
5525 HWY. 64 NBU 3004

January 11, 2000

New Mexico Oil & Gas Conservation Div.
2040 South Pacheco
Santa Fe, New Mexico 87505-6429

Downhole Commingling Allocation Method
on the San Juan 29-6 Unit #51

Dear Sirs:

Phillips is proposing to utilize the subtraction method on the subject well for approximately twelve months after actual commingling occurs. After the twelve month period we will convert to the ratio method as indicated in our commingling application. We believe this will be a more accurate method of allocating production considering that the Mesaverde interval has been producing for years and that the production will not be stabilized on the Pictured Cliffs for several months.

Pictured Cliffs Forecast

February 2000	6,616	March 2000	7,168
April 2000	6,785	May 2000	6,858
June 2000	6,582	July 2000	6,563
August 2000	6,421	September 2000	6,166
October 2000	6,151	November 2000	5,908
December 2000	5,896	January 2001	5,773

For example, if the total volume for March 2000 were 11,942 mcf, then the Pictured Cliffs would be allocated 7,168 mcf and the Mesaverde 4,774 mcf. And subsequently, the Pictured Cliffs would be allocated (7,168/11,942) or 60.02%, and Mesaverde would be allocated (4,774/1,1942) or 39.98%.

Sincerely,

PHILLIPS PETROLEUM COMPANY

Mark Stodola

Mark W. Stodola
Reservoir Engineer

MS/pc

cc: OCD – Aztec
BLM- Farmington
NM Commissioner of Public Lands – Santa Fe

PHILLIPS PETROLEUM COMPANY
5525 HWY 64 NBU 3004
FARMINGTON, NEW MEXICO 87401

DATE: NOVEMBER 23, 1999

WELL NAME: SAN JUAN 29-6 # 51
FORMATION: MESA VERDE

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARRIBA
STATE: NEW MEXICO

TOTAL DEPTH: 6012'
PERFS: 5872' TO 5992'
TUBING: 2 3/8 TO 5981'
CASING SIZE:
PACKER:
OTHER:
PRESSURED UP @ 13:00

CASING PRESSURE: 350
TUBING PRESSURE: 325
OIL LEVEL:
WATER LEVEL:
TEMPERATURE:
ELEMENT NO. 86484
ELEMENT RANGE 0 TO 3000

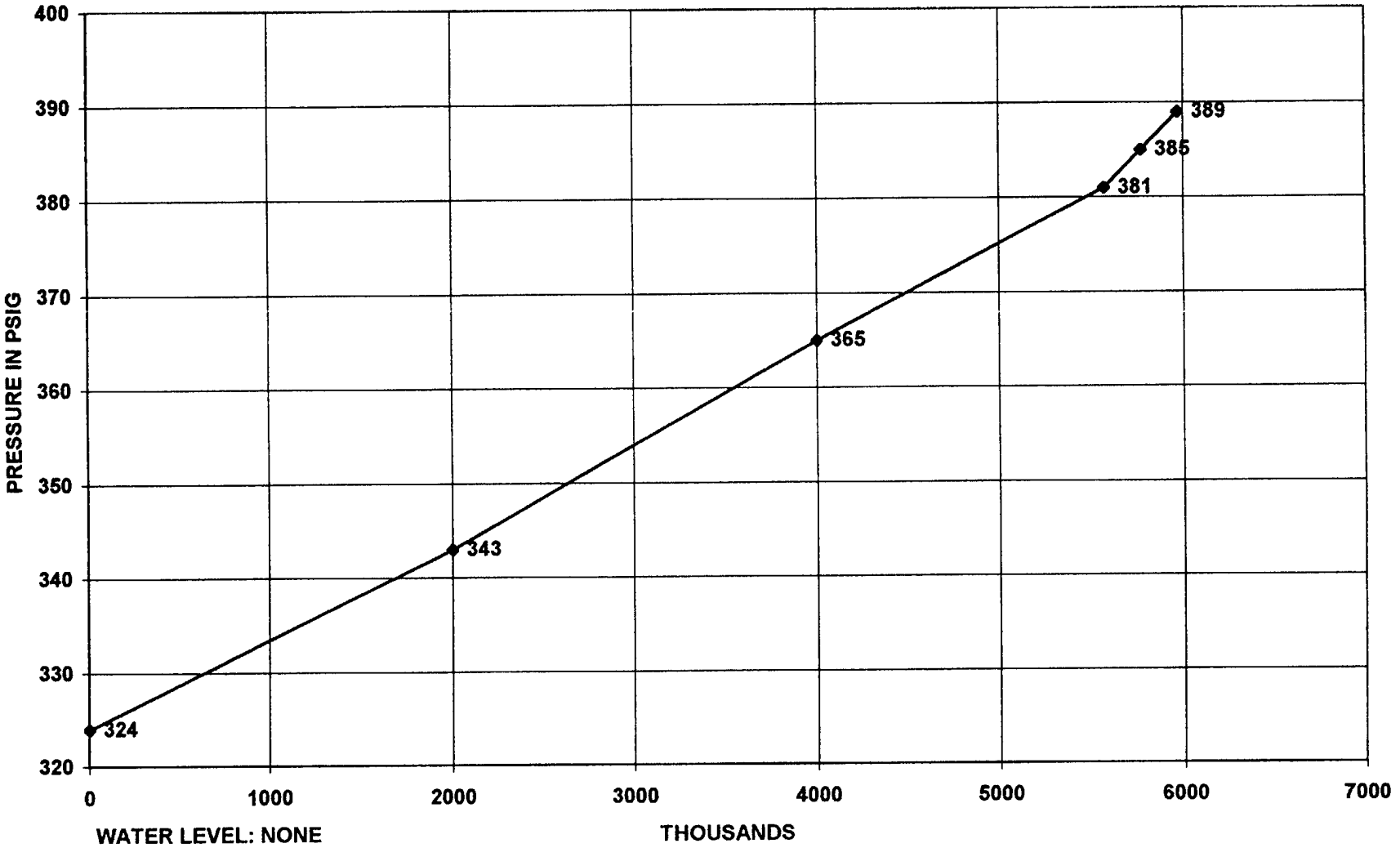
WELL STATUS: SHUT IN

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	324	
2000	343	0.010
4000	365	0.011
5570	381	0.010
5770	385	0.020
5970	389	0.020

SLM @ 5578'

H & H WIRELINE SERVICE INC.
P. O. BOX 899
FLORA VISTA, NEW MEXICO 87415
OPERATOR: CHARLES HUGHES
UNIT NO. T-11

PHILLIPS PETROLEUM SAN JUAN 29-6 # 51
DATE: NOVEMBER 23, 1999



WATER LEVEL: NONE

PETROLEUM COMPANY
5525 HWY 64 NBU 3004
FARMINGTON, NEW MEXICO 87401

DATE: DECEMBER 1, 1999

WELL NAME: SAN JUAN 29-6 # 16
FORMATION: PICTURE CLIFF

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARRIBA
STATE: NEW MEXICO

TOTAL DEPTH: PBTD 3748'
PERFS: 3585' TO 3652'
TUBING: 2 3/8 TO 3603'
CASING SIZE:
PACKER:
OTHER: 1.81 FN @ 3592'
PRESSURED UP @

CASING PRESSURE:
TUBING PRESSURE: 960
OIL LEVEL:
WATER LEVEL:
TEMPERATURE:
ELEMENT NO. 86484
ELEMENT RANGE 0 TO 3000

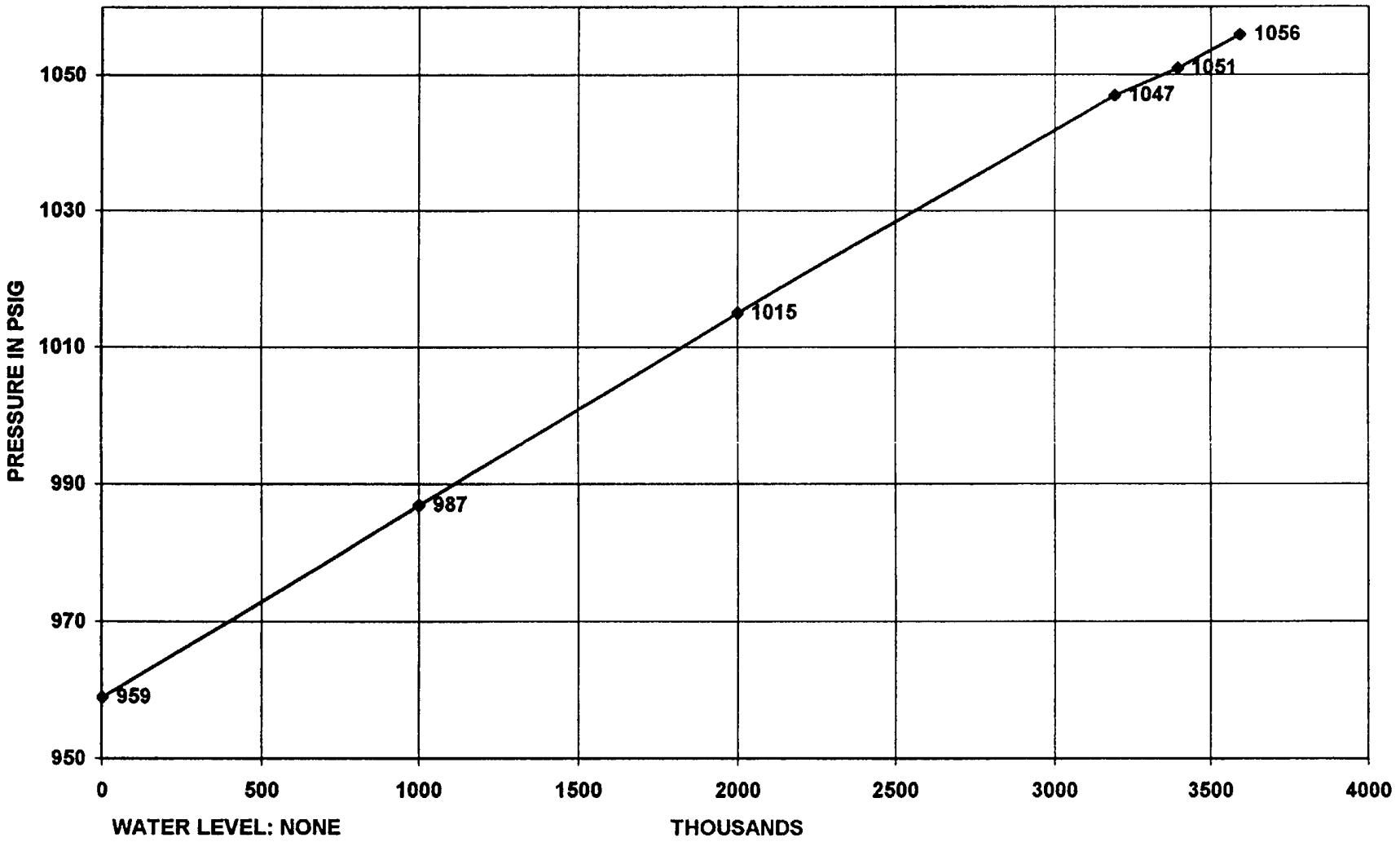
WELL STATUS: SHUT IN

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	959	
1000	987	0.028
2000	1015	0.028
3192	1047	0.027
3392	1051	0.020
3592	1056	0.025

SLM

H & H WIRELINE SERVICE INC.
P. O. BOX 899
FLORA VISTA, NEW MEXICO 87415
OPERATOR: CHARLES HUGHES
UNIT NO. T-10

PHILLIPS PETROLEUM SAN JUAN 29-6 # 16
DATE: DECEMBER 1, 1999



PHILLIPS PETROLEUM COMPANY
5525 HWY 64 NBU 3004
FARMINGTON, NEW MEXICO 87401

DATE: AUGUST 23, 1999

WELL NAME: SAN JUAN 29-6 # 51A
FORMATION: PICTURE CLIFF

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARRIBA
STATE: NEW MEXICO

TOTAL DEPTH: PBTD 4196'
PERFS: MP @ 3745'
TUBING SIZE: 2 3/8 TO 3804'
CASING SIZE: TO
PACKER:
OTHER: 2.25 SN @ 3773'
ENGAGED @ 09:10

CASING PRESSURE:
TUBING PRESSURE: 655
OIL LEVEL:
WATER LEVEL: 2351'
TEMPERATURE:
ELEMENT NO.
ELEMENT RANGE 0 TO 3500

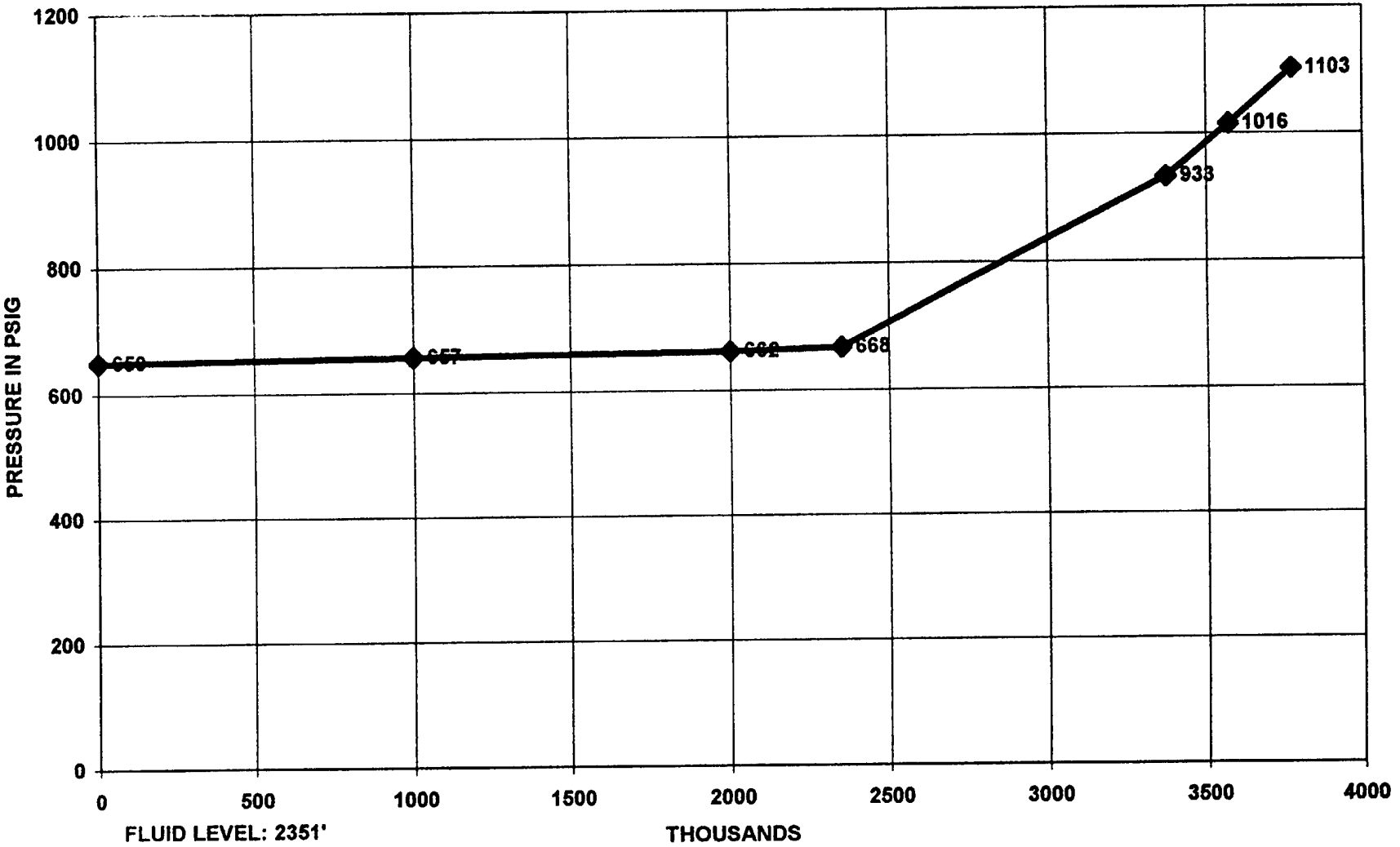
WELL STATUS: SHUT IN

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	650	
1000	657	0.007
2000	662	0.005
3373	933	0.198
3573	1016	0.415
3773	1103	0.430

RAN TD @ 4179'

H & H WIRELINE SERVICE INC.
P. O. BOX 899
FLORA VISTA, NEW MEXICO 87415
OPERATOR: STEVEN HODGES
UNIT NO. T-10

PHILLIPS PETROLEUM SAN JUAN 29-6 # 51A
DATE: AUGUST 23,1999



FLUID LEVEL: 2351'

PHILLIPS PETROLEUM COMPANY
5525 HWY 64 NBU 3004
FARMINGTON, NEW MEXICO 87401

DATE: DECEMBER 14, 1999

WELL NAME: SAN JUAN 29-6 # 53
FORMATION: PICTURE CLIFF

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARRIBA
STATE: NEW MEXICO

TOTAL DEPTH:
PERFS: MID PERF 3317'
TUBING: 2 3/8" TO 3342'
CASING SIZE:
PACKER:
OTHER: 1.81" FN @ 3329'
PRESSURED UP @ 08:45

CASING PRESSURE:
TUBING PRESSURE: 830
OIL LEVEL:
WATER LEVEL:
TEMPERATURE:
ELEMENT NO. 86484
ELEMENT RANGE 0 TO 3000

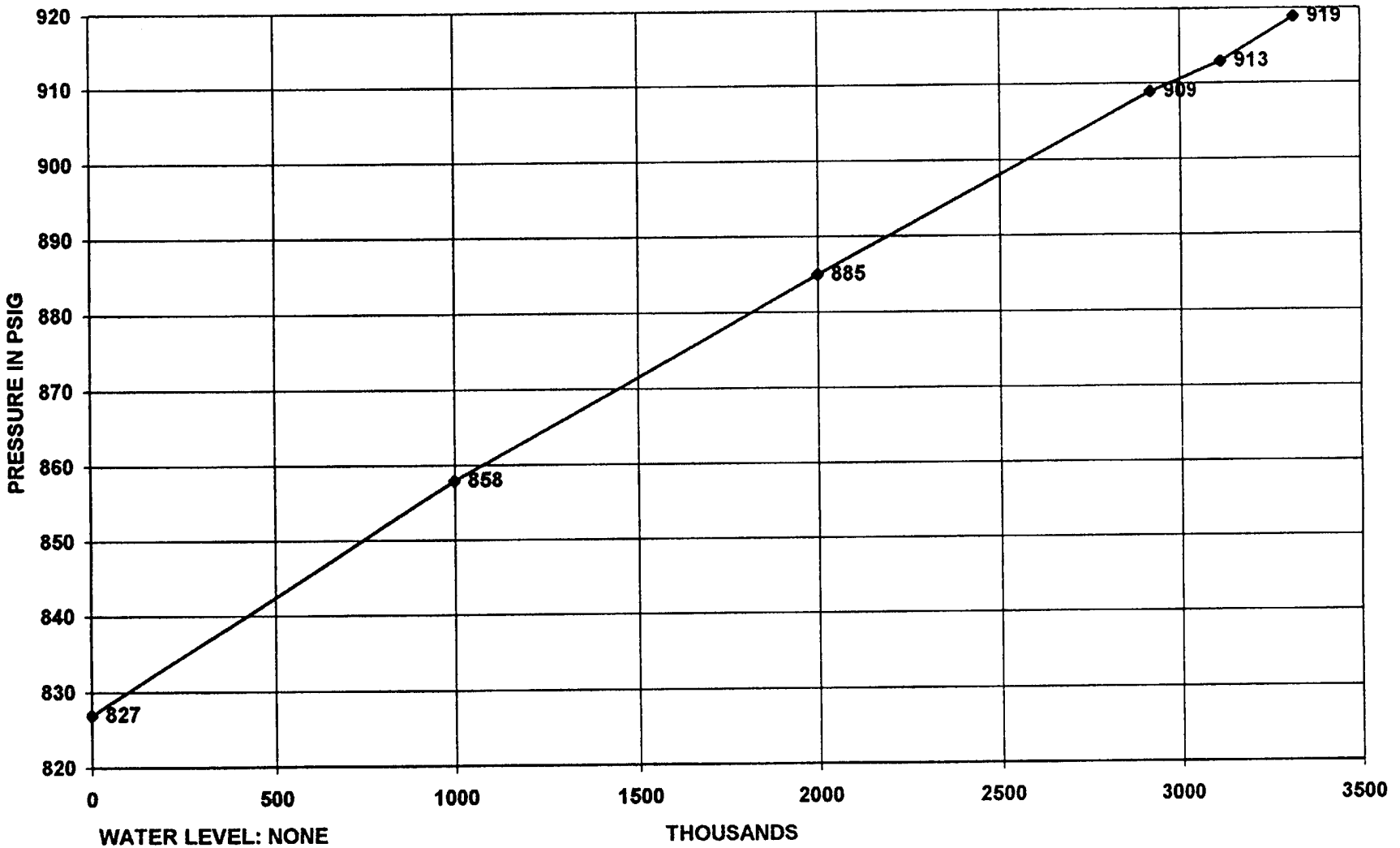
WELL STATUS: SHUT IN

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	827	
1000	858	0.031
2000	885	0.027
2917	909	0.026
3117	913	0.020
3317	919	0.030

SLM @ 3329'

H & H WIRELINE SERVICE INC.
P. O. BOX 899
FLORA VISTA, NEW MEXICO 87415
OPERATOR: CHARLES HUGHES
UNIT NO. T-11

PHILLIPS PETROLEUM SAN JUAN 29-6 # 53
DATE: DECEMBER 14, 1999



WATER LEVEL: NONE

PHILLIPS PETROLEUM COMPANY
5525 HWY 64 NBU 3004
FARMINGTON, NEW MEXICO 87401

DATE: AUGUST 11, 1999

WELL NAME: SAN JUAN 29-6 # 53A
FORMATION: PICTURE CLIFF

TYPE TEST: STATIC GRADIENT

COUNTY: RIO ARRIBA
STATE: NEW MEXICO

TOTAL DEPTH: PBTD 4485'
PERFS: MP 3753'
TUBING SIZE: 2 3/8" TO 3804'
CASING SIZE:
PACKER:
OTHER:

CASING PRESSURE: 1050
TUBING PRESSURE: 0
OIL LEVEL:
WATER LEVEL: 1134
TEMPERATURE:
ELEMENT NO.
ELEMENT RANGE 0 TO 3000

PRESSURED UP @ 08:05

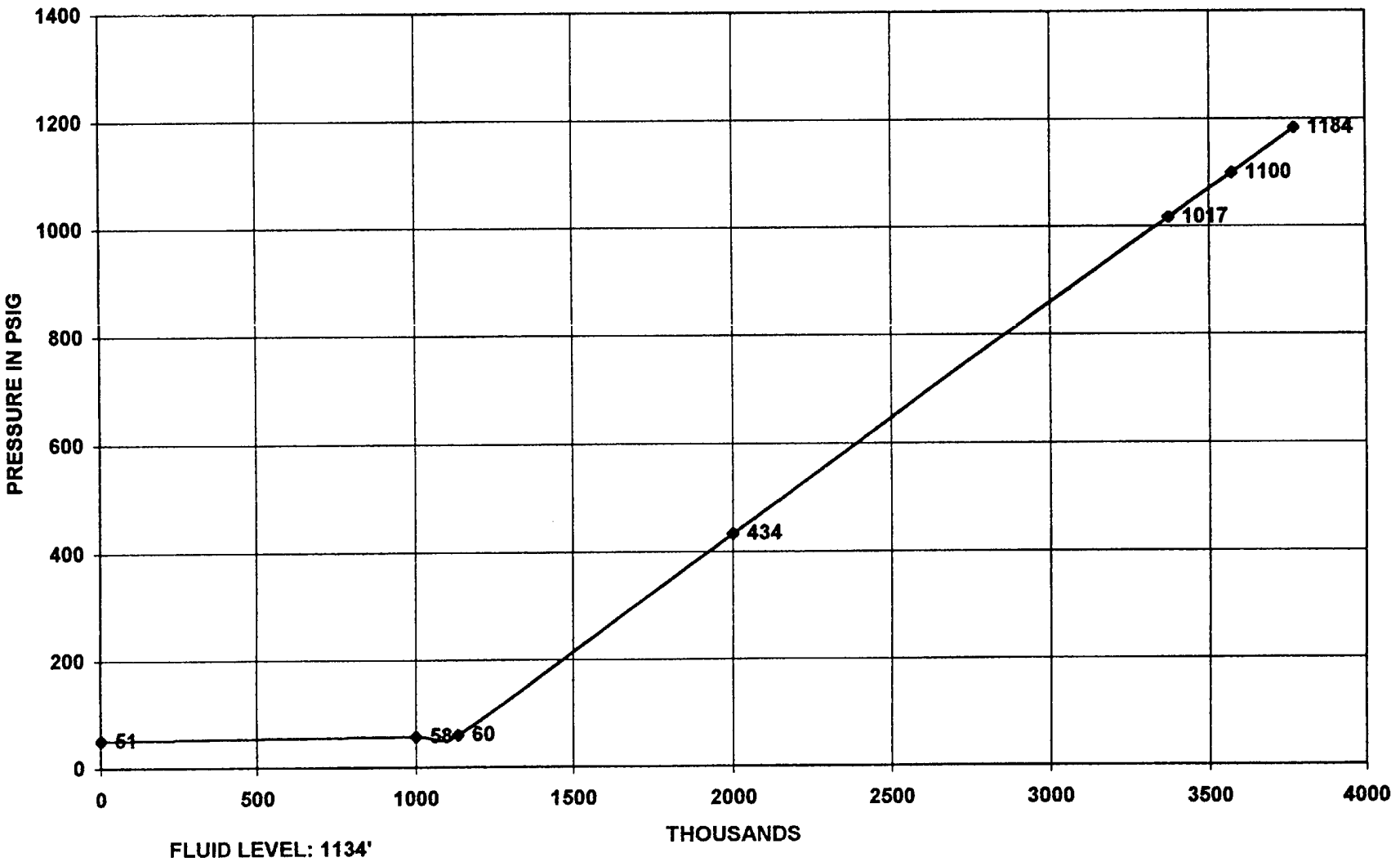
WELL STATUS: SHUT IN

DEPTH IN FEET	PRESSURE PSIG	GRADIENT PSI/FOOT
0	51	
1000	58	0.007
2000	434	0.376
3372	1017	0.424
3572	1100	0.420
3772	1184	0.425

RAN TD TO 4381'

H & H WIRELINE SERVICE INC.
P. O. BOX 899
FLORA VISTA, NEW MEXICO 87415
OPERATOR: CHARLES HUGHES
UNIT NO. T-11

PHILLIPS PETROLEUM SAN JUAN 29-6 #53A
DATE: AUGUST 11, 1999



FLUID LEVEL: 1134'

MEP81-01 PARPI - WELLZONE PRODUCTION BROWSE Date: 1/11/00
MONTHLY TOTALS User: MWSTODO

Wellzone F0274 01 Yr: 1999 Mth: 01 Property: 650112 SAN JUAN 29-6 MESA VERDE
Screen: 1 (1-Prod, 2-Inj, 3-Both) Well No: 000051
Type: T (T-Total, D-Daily Avg) Field: 070724 BLANCO
Period: M (M-Mnthly, Y-Yrly, C-Cum) Resvr: 20002 MESAVERDE

ADJ		PRODUCED			DAYS	WELL			
FLG	DATE	OIL (BBL)	GAS (MCF)	WATER (BBL)	PROD	OP	ST	CL	TY
	1999-01	50.87	3,757	0	31.00	31	11	03	2
	1999-02	0.00	2,794	0	28.00	28	11	03	2
	1999-03	24.25	2,800	0	31.00	31	11	03	2
	1999-04	4.79	2,591	0	30.00	30	11	03	2
	1999-05	5.24	2,855	0	31.00	31	11	03	2
	1999-06	0.00	2,567	0	30.00	30	11	03	2
*	1999-07	24.38	5,985	26	31.00	31	11	03	2
	1999-08	28.64	5,517	0	31.00	31	11	03	2
*	1999-09	19.93	4,663	0	30.00	30	11	03	2
*	1999-10	4.50	2,472	0	31.00	31	11	03	2
*	1999-11	35.26	4,628	0	30.00	30	11	03	2

NO MORE DATA AVAILABLE
PA1=ICE PA2=Exit PF1=Help PF3=End PF11=GRAPH
Transfer-> PF7=Backward PF8=Forward PF4=PREV SCREEN PF12=LOG GRAPH

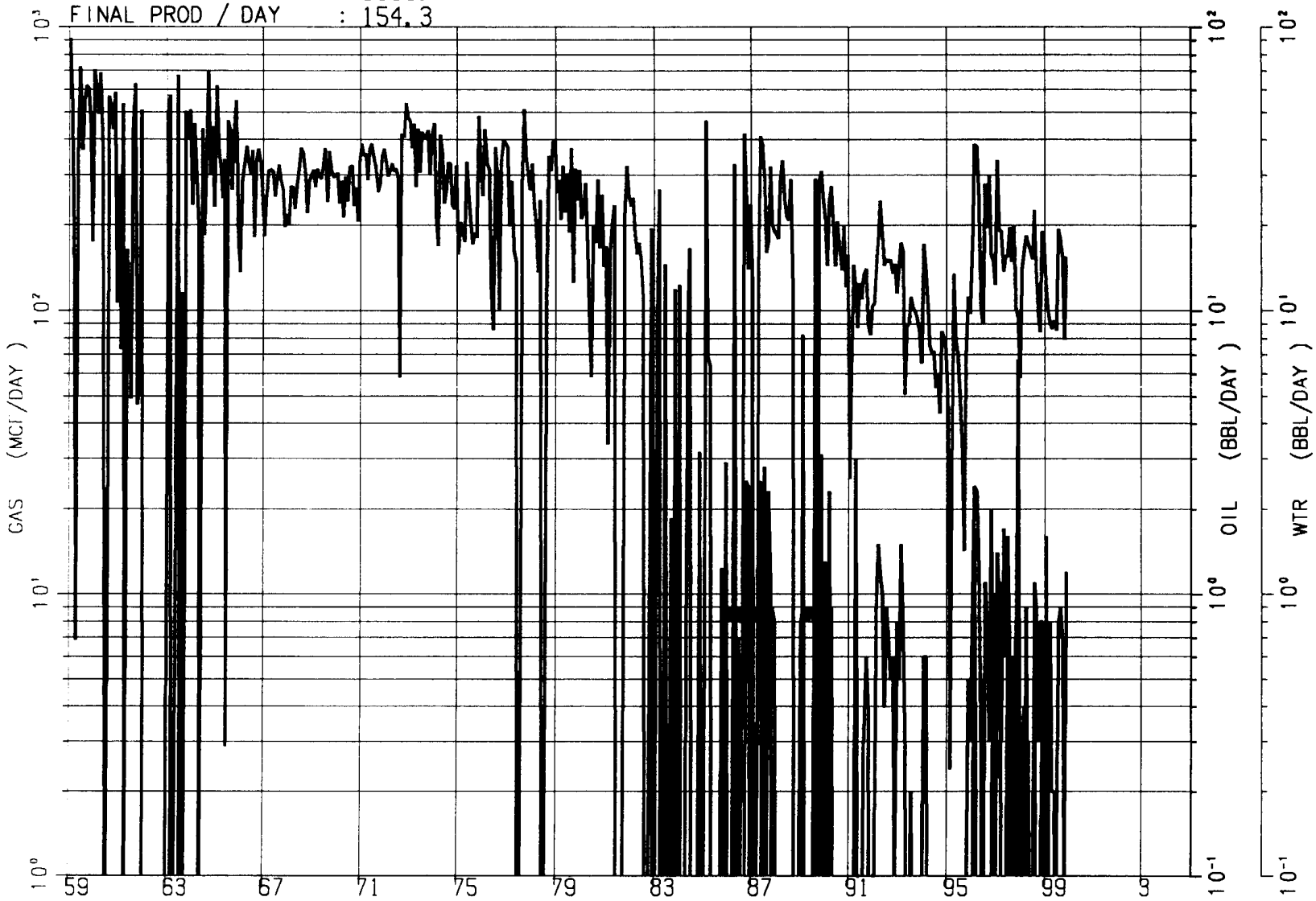
1/59-11/99

ASSOC.

Current Cums

INITIAL PROD / DAY : 909.5
REMAINING LIFE : 40.92
0.00
CUM PRODUCTN-MUNITS : 3155.
FINAL PROD / DAY : 154.3

3155. MMCF GAS
2420. BBL OIL
1520. BBL WTR



LEASE- 650112 : SAN JUAN 29-6 MESA VERDE
RESVR- 002 : BLANCO MESAVERDE
WELL - 000051 CUM MMCF= 3593.

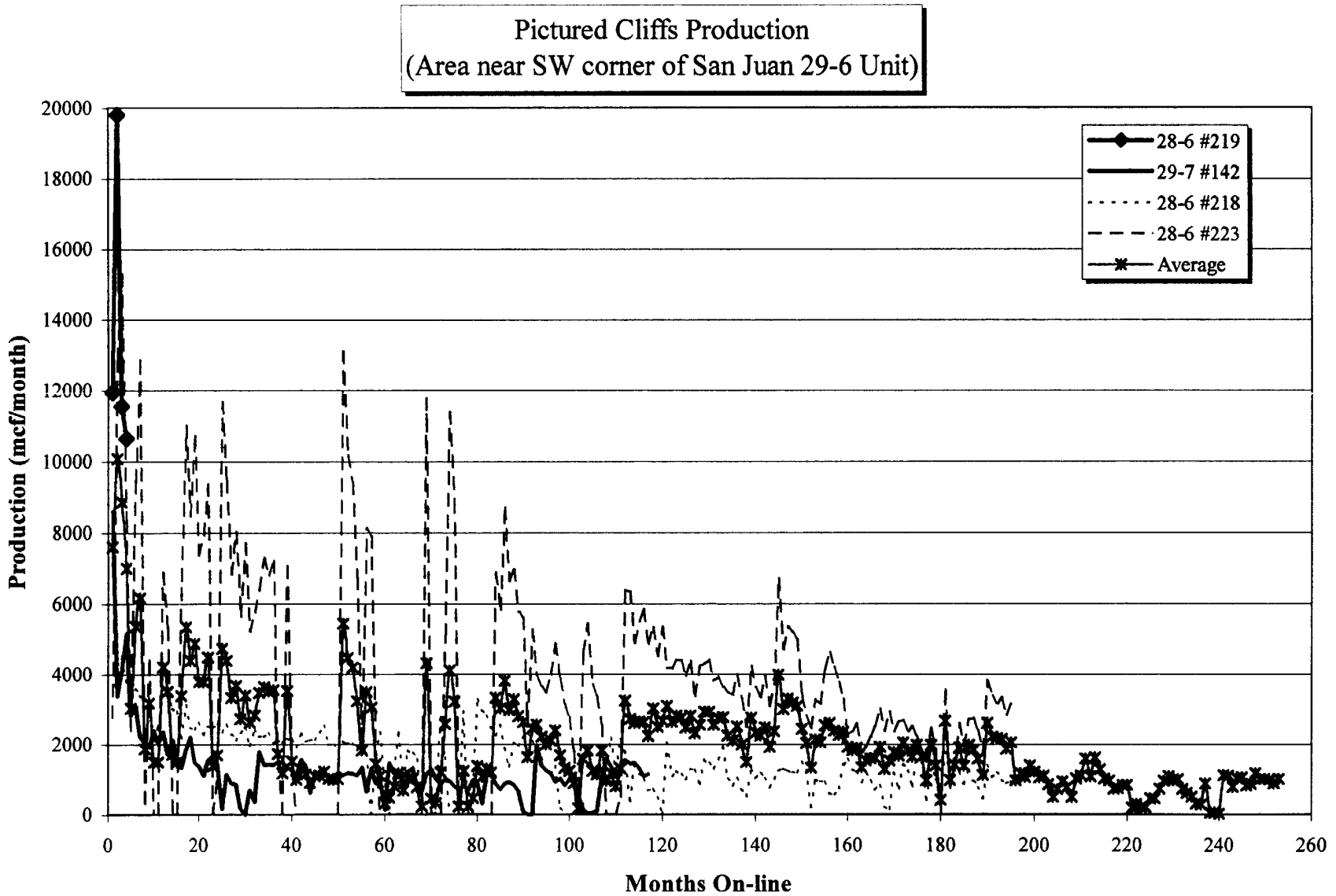
F027401
ZONE-650112002000051 F027401
API-30039074700000 THRU 99/11

MWST 2000/01/11 09:36

San Juan 29-6 #51 Pictured Cliffs Forecast

Initial Production Rate	=	*250*	*MCFD*
Hyperbolic Exponent	=	*0.33*	
Decline Rate	=	*27.360*	%

Month	Days	Cum. Days	Initial q MCFD	Final q MCFD	Average q MCFD	Cum. MCF	***Monthly MCF***
Dec-99	31	31	250	244	247	7,661	***7,661***
Jan-00	31	62	244	239	242	15,147	***7,486***
Feb-00	28	90	239	234	236	21,763	***6,616***
Mar-00	31	121	234	229	231	28,931	***7,168***
Apr-00	30	151	229	224	226	35,716	***6,785***
May-00	31	182	224	219	221	42,574	***6,858***
Jun-00	30	212	219	214	216	49,156	***6,582***
Jul-00	31	243	214	209	212	55,720	***6,563***
Aug-00	31	274	209	205	207	62,141	***6,421***
Sep-00	30	305	205	201	203	68,307	***6,166***
Oct-00	31	336	201	196	199	74,458	***6,151***
Nov-00	30	366	196	192	194	80,367	***5,908***
Dec-00	31	397	192	188	190	86,263	***5,896***
Jan-01	31	428	188	185	186	92,035	***5,773***
Feb-01	28	456	185	181	183	97,146	***5,111***
Mar-01	31	487	181	177	179	102,693	***5,547***
Apr-01	30	518	177	174	175	108,025	***5,332***
May-01	31	549	174	170	172	113,349	***5,324***


Pictured Cliffs Production
(Area near SW corner of San Juan 29-6 Unit)
Production (mcf/month)
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
0
20
40
60
80
100
120
140
160
180
200
220
240
260
Months On-line
28-6 #219
29-7 #142
28-6 #218
28-6 #223
Average

Production Allocation Methodology

- Adding New Zone to Existing Zone - Initially Subtraction Method followed by Fixed Allocation Method
  - Subtraction Method (+/- 1st 12 months)
    - Forecast production rate by month for existing zone utilizing established decline curve for zone
    - Subtract forecasted rate from commingled rate to define new zone rate
    - Utilize subtraction method for +/- 12 months until new zone rate stabilizes, then utilize fixed allocation method with current rates
  - Fixed Allocation Method (after Subtraction Method)
    - Utilize forecasted rate from established decline curve for lower zone
    - Calculate upper zone rate by subtracting lower zone rate from commingled rate
    - Lower zone allocation = $\frac{\text{Lower zone rate}}{\text{Commingled rate}}$
    - Upper zone allocation = (Commingled rate - Lower zone rate) / Commingled rate